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Signature Required

30 July 2008

Lamson Nguyen
278 Maple Ave.
Somerset, NJ 08873

RE: US Patent Application based on PCT International application:
PCT/GB2005/000343 directed to:
Cleaning Device
Serial No.: 10/597550
NMM File Ref.: 102792-603

Dear Lamson;

I am transmitting with this letter a set of documents which relate to the above identified US patent applications which all relate to Project JETSON of which you are a named co-inventor. Please review these documents, which are: (a) a copy of the US application filed, (b) a *Combined Oath, Declaration and Power of Attorney* and a (c) *US Assignment*. Please sign and date documents (b) and (c) of each set in permanent, non-black ink and return all of these documents to me in the enclosed pre-paid and preaddressed courier envelope. If you note any typographical in any of the documents (b) and/or (c), kindly cross out any error, and in the margin next to the error enter the correction and include your initials signifying ratification of such a change. Please feel free to keep a copy for your files, although I do ask that you return the original documents (b) and (c) bearing your original signature to me.

If you have any questions regarding the above or you need assistance with any of these documents please don't hesitate to get in touch with me either telephonically at (212) 808-0700 (... except for Thursdays when I am at the Montvale Technical Center) or by email at anparfomak@nmmlaw.com.

I look forward to receiving these documents from you soon. For your convenience I enclose a pre-paid and pre-addressed courier envelope for your use in returning the signed (b) and (c) documents to my office.



As always, should there be any question or if we can be of further assistance please do not hesitate in contacting me directly.

Very Truly Yours,

A handwritten signature in black ink, appearing to read 'Andrew', with a long horizontal flourish extending to the right.

Andrew N. Parfomak

Enclosures – as indicated

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CLEANING DEVICE

This invention relates to a cleaning device, a method of driving a cleaning device, a method of cleaning and a
5 drive mechanism for a cleaning device.

A number of automatic cleaning devices are known that are used to clean a floor by automatically moving around that floor as a cleaning operation is undertaken. Some devices
10 operate by mapping out the floor space of a room to be cleaned by means of complex electronics that store a plan of the room to be cleaned and direct the cleaning device to work around the planned room. Such complex automatic devices have the disadvantage of being expensive to
15 manufacture. Also, the devices of this type are prone to requiring frequent maintenance and have high power requirements.

Another type of automatic cleaning device does not
20 incorporate complex electronic circuitry and takes a random path across a floor surface of a room to be cleaned with the intention that, by the random nature of the path, the entire floor surface will at some point have been covered by the cleaning device. Disadvantages arise with
25 this type of device in that the random path taken can result in much repetition of the surface being cleaned, unless action is taken to prevent this type of behaviour.

Furthermore, both types of automatic cleaning device have
30 the disadvantage of becoming stuck in relatively narrow spaces or corners within the room to be cleaned.

It is an object of the present invention to address the above-mentioned disadvantages. It is a further object to the present invention to provide a cleaning device having a mode of operation that results in a controlled random
5 movement across a surface to be cleaned.

According to a first aspect of the invention a cleaning device incorporates drive means and cleaning means, wherein the drive means are operable to drive the cleaning
10 means across a surface to be cleaned, and wherein the drive means are operable to adopt first and second driving modes, the first driving mode being a travelling mode and the second driving mode being a turning mode, wherein locking means of the drive means allow selection between
15 the first and second driving modes.

The drive means may include a rotatably mounted carriage, which preferably incorporates at least one drive wheel. The carriage is preferably mounted to rotate about an axis
20 substantially perpendicular to a rotational axis of the at least one drive wheel. The carriage is preferably prevented from rotating in the first driving mode. The carriage is preferably free to rotate in the second driving mode.

25

The locking means are preferably operable to be actuated by the cleaning device making contact with an obstacle. The locking means are preferably actuatable by an activation element located on a periphery of the cleaning device.
30 The activation element may be a bumper, which may protrude from the cleaning device. The activation element may be physically, preferably rigidly, linked to the locking

means. The activation element may be electrically linked to the locking means.

The locking means may be detent means. The detent means
5 may comprise an interengaging projection/recess pair of the carriage and a body of the cleaning device.

Preferably, the locking means are biased to cause engagement of the first driving mode, preferably by a
10 resilient bias. Preferably, the resilient bias is arranged to be overridden by the cleaning device making contact with an obstacle, such as by a physical jolt.

The turning mode may be a manoeuvring mode.

15

The drive means may provide a rear wheel drive.

According to a second aspect of the invention a method of driving a cleaning device comprises adopting one of first
20 and second driving modes of drive means of the cleaning device, wherein the first driving mode is a travelling mode and the second driving mode is a turning mode, and wherein the first and second driving modes are selected by actuation of locking means of the drive means.

25

The locking means are preferably actuated by the cleaning device making contact with an obstacle, which contact may be an impact.

30 Actuation of the locking means preferably results in the second driving mode being adopted. In the absence of actuation of the locking means the first driving mode is preferably selected.

Preferably the locking means are biased to lock a carriage of the drive means in position in the first driving mode. Preferably an impact between the cleaning device and an
5 obstacle causes disengagement of the locking means.

Selection of the second driving mode preferably allows a carriage of the drive means to turn about a generally vertical axis. The turning of the carriage preferably
10 allows the carriage to find a driving direction that avoids the obstacle that caused the selection of the second driving mode. The carriage preferably turns to a first direction that at least one driving wheel of the drive means can drive the cleaning device.

15

According to a third aspect of the invention a method of cleaning a surface comprises driving a cleaning device across the surface with drive means, to thereby cause cleaning means of the cleaning device to pass over the
20 surface to allow cleaning thereof, wherein the drive means drive the cleaning device in a substantially straight path in a first driving mode until an obstruction is encountered, whereupon a second driving mode is engaged that causes the drive means to turn or reverse from the
25 obstacle.

The invention extends to cleaning means for a cleaning device as described in the first aspect.

30 The invention extends to drive means for a cleaning device as described in the first aspect.

According to a further aspect of the invention a cleaning device incorporates drive means for driving the cleaning device across a surface to be cleaned and cleaning means, wherein a front face of the cleaning device is substantially straight and a rear face of the cleaning device is substantially curved, preferably giving the cleaning device a general D-shape.

The cleaning means are preferably located substantially adjacent to the front face on an underside of the cleaning device.

The drive means may be located in a front section of the cleaning device, or may be located in a rear section of the device.

All of the features described herein can be combined with any of the above aspects in any combination.

For a better understanding of the invention, and to show how embodiments of the same may be carried into effect, reference will now be made, by way of example, to the accompanying diagrammatic drawings in which:

Figure 1 is a schematic view of an underside of an automatic floor cleaning device;

Figure 2 is a schematic partial cross-sectional view of a drive mechanism of the floor cleaning device;

Figure 3 is a partial schematic perspective view of the drive mechanism of the floor cleaning device;

Figure 4 is a schematic perspective view of the floor cleaning device; and

Figure 5 is a schematic view of an underside of a second
5 embodiment of cleaning device.

A cleaning device 10 comprises a body section 12, having a drive mechanism 14 with slave wheels 16 and 18, which may be jockey wheels or may be ball bearings. A cleaning
10 section 20 is located on a base of the body section 12. The device is shown schematically in Figure 4.

The cleaning section 20 may be a dry duster pad or it may be a wet cleaning device, which may be fed with cleaning
15 fluid or water from a reservoir. The cleaning section 20 may driven in a spinning motion. The cleaning section 20 is replaceable and or replenishable.

The drive mechanism 14 incorporates wheels 15 joined by
20 axle 22. The axle 22 and wheels 15 are held within a carriage 36, from which housing a lower part of each wheel 15 projects. The carriage is on an eccentric, freely rotatable mounting (shown at point 17 in Figure 1) to allow rotation about a generally vertical axis. The
25 mounting is slightly forward of the centre of the carriage, so that in forward motion the main portion of the carriage will be dragged behind the eccentric mounting. Internal projections 24 and 26 in the housing 36 provide snap fit retaining clips for the axle 22, said
30 clips allowing free rotation of the axle 22

The axle 22 includes a toothed wheel 28, which engages a toothed wheel 30 secured to a drive shaft 32 of a motor 34.

5 The motor 34 is housed in the body 12 of the cleaning device 10, separate from the carriage 36. The drive shaft 32 extends from the body 12 into the carriage 36, as shown in Figure 2.

10 As shown in Figure 3, the carriage 36 incorporates an opening 40 on a rear outer face thereof, which opening 40 is adapted to receive a projection 42 of a drive mode selection bracket 44. The drive mode selection bracket 44 is biased forwards by a spring 46 to urge the projection
15 42 towards the carriage 36 and into the opening 40 in the carriage 36, assuming the carriage 36 is correctly aligned with the projection 42, as will be described below. The drive mode selection bracket 44 is connected to a plate 38 which extends horizontally forwards over the top of the
20 carriage 36 to a bumper 48 (see Figure 1) which projects forwards out of the body 12 of the cleaning device 10. The bumper 48, the plate 38 and drive mode selection bracket 44 are all biased forwards by the spring 46. An opening 50 is provided in the plate 38 to allow the drive
25 shaft 32 to pass between the carriage 36 and the motor 34.

The height of a lower edge of the bumper 48 from the ground is a relevant factor to consider. The height must be sufficiently great that the bumper 48 is not triggered
30 by a surface that is only uneven, rather than being an obstruction, but the bumper must be sufficiently low that it does not pass over the top of an obstruction. A clearance of about 3mm has been found to be acceptable.

The bumper 48 has an upper edge extending to the top of the body 12 of the cleaning device 10, so that the bumper is triggered in the event that an overhanging obstruction is hit, such as a spar of a chair or the like.

5

In use, the motor 34 drives the drive shaft 32 causing rotation of the toothed wheel 30. The toothed wheel 30 rotates about a generally vertical axis as shown in Figure 2. Engagement of the toothed wheel 28 and the toothed
10 wheel 30 converts the vertical rotational axis to a generally horizontal rotational axis, suitable for driving the wheels 15. The toothed wheel 28 is rigidly mounted on the axle 22, meaning that rotation of the toothed wheel 28 causes rotation of the wheels 15 which, when the cleaning
15 device 10 is placed on a floor, causes the cleaning device 10 to be driven forwards, assuming sufficient torque and power is provided by the motor 34.

In an initial operating condition in the bumper 48, plate
20 38 and drive mode selection bracket 44 are urged forwards by the spring 36 so that the projection 42 engages the opening 40 in the carriage 36. The cleaning device 10 will be driven in a forwards direction. The carriage 36 is freely rotatable on its eccentric mounting about the
25 drive shaft 32, but the engagement of the projection 42 and the opening 40 prevent rotation of the carriage 36. In this drive mode, the cleaning device is driven forwards.

30 Should the cleaning device 10 make contact with an obstacle, such as a wall or a piece of furniture, as it is being driven along a floor the bumper 48 will be pushed back slightly towards the body 12 causing the plate 38 and

selection bracket 44 move backwards against the bias of the spring 46. This causes the projection 42 to be withdrawn from the opening 40 in the carriage 36.

5 A feature of the carriage 36 (which as mentioned above is freely rotatable about the drive shaft 38) is that in the absence of the wheels 15 being able to turn because of an obstacle the carriage 36 is caused to rotate in the direction dictated by the rotation of the drive shaft 32
10 until the wheels 15 can turn once more. The reason for rotation of the carriage 36 is that the turning force of the power shaft 32 is more easily dissipated than it would be if the motor 34 were simply to stall. Thus, the least resistance is typically provided by rotation of the wheel
15 15.

For example, if the obstruction is a wall forward motion of the cleaning device 10 is prevented causing the wheels 15 either to cease rotation or spin without traction. At
20 the same time, with the projection 42 being removed from the opening 40 the carriage 36 is allowed to turn in response to rotation of the drive shaft 32. Thus, the carriage 36 turns until it can pull the cleaning device 10 in a direction away from or along an edge of the
25 obstruction, for example to the side. On a normal floor surface and in the absence of an obstruction the torque of the motor is more easily dissipated by rotation of the wheels 15 than by rotation of the carriage 36. This then results in the cleaning device moving in a new direction.

30

Given the eccentric mounting of the carriage 36, the carriage 36 tends to assume a forwards direction of movement, because the weight of the carriage is dragged

behind the pivot 17. This leads to realignment of the projection 42 with the opening 40. The spring 46 then urges the projection 42 back into the opening 40 and the carriage 36 is locked in forward drive mode. Thus the
5 cleaning device 10 proceeds until a new obstruction is encountered.

During the period when the projection 42 is disengaged from the opening 40 the carriage 36 simply rotates until
10 an orientation is found in which the wheels 15 can turn. Thus, the carriage 36 effectively attempts all possible directions of movement until the first possible direction of drive is encountered. The carriage 36 always rotates in the direction of rotation of the drive shaft 32. Thus,
15 for a clockwise rotation of the drive shaft, as shown schematically by the arrow in Figure 3, the carriage 36 turns around clockwise to attempt to find a direction of travel to move away from the obstacle.

20 It has been found that the cleaning device 10 may perform a three point turn when encountering an obstacle. If there is friction between the bumper 48 and the obstacle, the first available direction of movement may be in reverse. If this is the case the cleaning device reverses and after
25 a short period of travel with the drive mechanism 14 acting in the manner of a rear wheel drive device, the cleaning device turns around through about 90 degrees and the carriage turns again to resume a forward travel direction.

30

An alternative embodiment of cleaning device 10 incorporates all of the features of the first embodiment except for the mechanical linkage of the bumper 48 through

the plate 38 to the drive mode selection bracket 44. Instead, a pressure switch or piezo-electric device takes the place of the bumper 48, which switch or piezo-electric device is electrically connected to a solenoid or the like which, when triggered, causes a projection much the same as that as shown by reference numeral 42 in Figure 3 to engage the opening 40 in the carriage 36. The projection is biased forwards to lock the carriage 36 by a spring or the like, as described in relation to the first embodiment. The projection 42 and recess 40 work in the same way as described above in relation to Figure 3, except that instead of a mechanical linkage, the linkage is electrical.

As shown in Figure 1, the plan view of the cleaning device 10 shows that it has a general D shape, with a curved front face and a generally straight rear. It has been found that this shape is particularly beneficial in assisting the cleaning device from freeing itself from an obstruction, such as a wall, more particularly a corner or a obstruction caused by furniture or other items located on the floor being cleaned. Furthermore, the location of the carriage 36 close to the curved front face of the cleaning device assists the turning of the cleaning device 10 away from an obstruction, in that the curved front face allows the cleaning device to turn more easily away from an obstruction. An angle or corner on the front face may prevent the cleaning device 10 from rotating with respect to an obstacle.

30

Figure 5 shows a different embodiment of cleaning device. All of the parts are common with the embodiment shown in Figures 1 to 4, but the orientation of the body section 12

is reversed, so that cleaning device 10 has a straight front edge and a curved rear. Also, the drive mechanism 14 is located towards the rear of the cleaning device 10, to provide a rear wheel drive, compared to the front wheel drive of the embodiment of Figures 1 to 4. Instability of the drive mechanism 14 due to rear wheel drive does not occur, because the carriage 36 is locked in position during forward motion, as described above. It has been found that better cleaning of an edge of a floor and corners, or around objects, is achieved with a straight front face. The reason for this is that the flat front face can approach closer to an edge than the curved face. The same reference numerals are used in Figure 5 as those in Figures 1 to 4. The device functions in the same way as the embodiment of Figures 1 to 4.

The cleaning devices described herein have significant advantages resulting from the drive carriage 36 being either retained in position or released depending on a particular drive mode, such as either a forward driving mode or a turning mode. The disadvantages of a poorly aligned or weighted system in which the cleaning device moves in a curved path is avoided by having the carriage 36 locked in position until an obstruction is encountered. It has been found that a straight path leads to a floor being cleaned more quickly when compared to a cleaning device moving in a tightly curved path.

Furthermore, significant advantages are derived from the shape of the device having a front curved edge to assist in a device driving itself out of or away from obstructions.

Also, the embodiment having a straight front edge has advantages.

5 The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

10

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

25

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

30

CLAIMS

1. A cleaning device incorporates drive means and cleaning means, wherein the drive means are operable to
5 drive the cleaning means across a surface to be cleaned, and wherein the drive means are operable to adopt first and second driving modes, the first driving mode being a travelling mode and the second driving mode being a turning mode, wherein locking means of the drive means
10 allow selection between the first and second driving modes.
2. A cleaning device as claimed in claim 1, in which the drive means includes a rotatably mounted carriage
15 incorporating at least one drive wheel.
3. A cleaning device as claimed in claim 2, in which the carriage is mounted to rotate about an axis substantially perpendicular to a rotational axis of the at least one
20 drive wheel.
4. A cleaning device, as claimed in either claim 2 or claim 3, in which the carriage is prevented from rotating in the first driving mode.
25
5. A cleaning device as claimed in any one of claims 2 to 4, in which the carriage is free to rotate in the second driving mode.
- 30 6. A cleaning device as claimed in any preceding claim, in which the locking means are operable to be actuated by the cleaning device making contact with an obstacle.

7. A cleaning device as claimed in any preceding claim, in which the locking means are actuatable by an activation element located on a periphery of the cleaning device.

5 8. A cleaning device as claimed in claim 7, in which the activation element is electrically linked to the locking means.

9. A cleaning device as claimed in any preceding claim,
10 in which the locking means are detent means.

10. A cleaning device as claimed in claim 9, in which the detent means comprise an interengaging projection/recess pair of the carriage and a body of the cleaning device.

15

11. A cleaning device as claimed in any preceding claim, in which the locking means are biased to cause engagement of the first driving mode.

20 12. A cleaning device as claimed in claim 11, in which the bias is arranged to be overridden by the cleaning device making contact with an obstacle.

13. A method of driving a cleaning device comprises
25 adopting one of first and second driving modes of drive means of the cleaning device, wherein the first driving mode is a travelling mode and the second driving mode is a turning mode, and wherein the first and second driving modes are selected by actuation of locking means of the
30 drive means.

14. A method as claimed in claim 13, in which the locking means are actuated by the cleaning device making contact with an obstacle.

5 15. A method as claimed in claim 13 or claim 14, in which actuation of the locking means results in the second driving mode being adopted.

10 16. A method as claimed in any one of claims 13 to 15, in which, in the absence of actuation of the locking means, the first driving mode is selected.

15 17. A method as claimed in any one of claims 13 to 16, in which the locking means are biased to lock a carriage of the drive means in position in the first driving mode.

18. A method as claimed in any one of claims 13 to 17, in which selection of the second driving mode allows a carriage of the drive means to turn about a generally
20 vertical axis.

19. A method of cleaning a surface comprises driving a cleaning device across the surface with drive means, to thereby cause cleaning means of the cleaning device to
25 pass over the surface to allow cleaning thereof, wherein the drive means drive the cleaning device in a substantially straight path in a first driving mode until an obstruction is encountered, whereupon a second driving mode is engaged that causes the drive means to turn or
30 reverse from the obstacle.

20. Cleaning means for a cleaning device as claimed in any of claims 1 to 12.

21. Drive means for a cleaning device as claimed in any one of claims 1 to 12.

- 5 22. A cleaning device incorporates drive means for driving the cleaning device across a surface to be cleaned and cleaning means, wherein a front face of the cleaning device is substantially straight and a rear face of the cleaning device is substantially curved.

ABSTRACT**Cleaning Device**

A cleaning device (10) incorporates drive means (14) and
5 cleaning means (20), wherein the drive means (14) are
operable to drive the cleaning means (20) across a surface
to be cleaned, and wherein the drive means (14) are
operable to adopt first and second driving modes, the
first driving mode being a travelling mode and the second
10 driving mode being a turning mode, wherein locking means
(40, 42) of the drive means (14) allow selection between
the first and second driving modes.

15 [Figure 5]

Attorney Docket No.: 102792-603 (11302P1 US)
 U.S. Serial No.: To Be Assigned
 Filing Date: July 26, 2006
 Name of Applicant: Geoffrey Robert HAMMOND et al.
 Title of Invention: CLEANING DEVICE

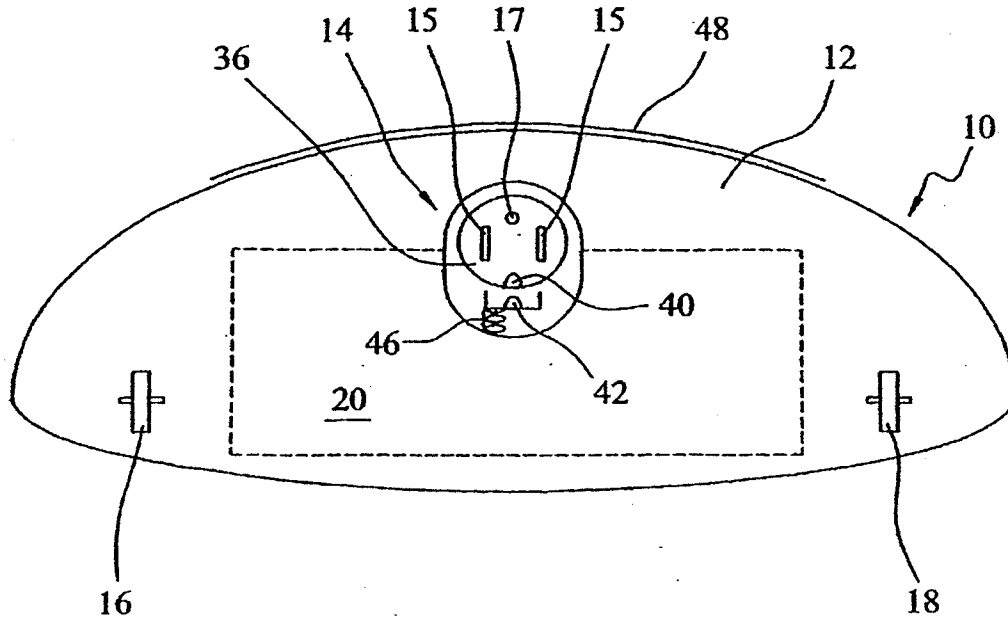


FIG. 1

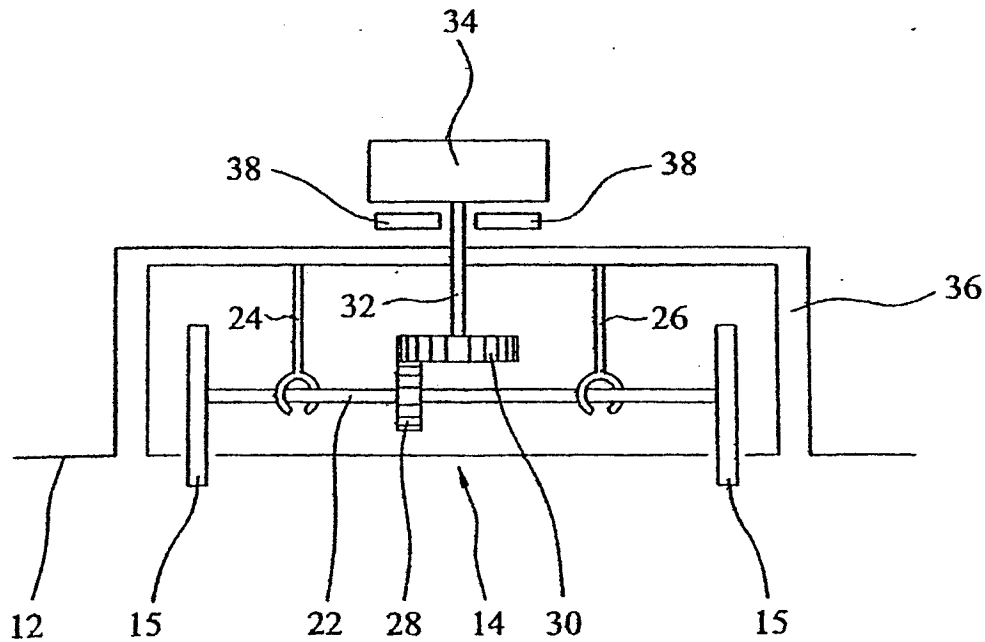


FIG. 2

Attorney Docket No.: 102792-603 (11302P1 US)
 U.S. Serial No.: To Be Assigned
 Filing Date: July 26, 2006
 Name of Applicant: Geoffrey Robert HAMMOND et al.
 Title of Invention: CLEANING DEVICE

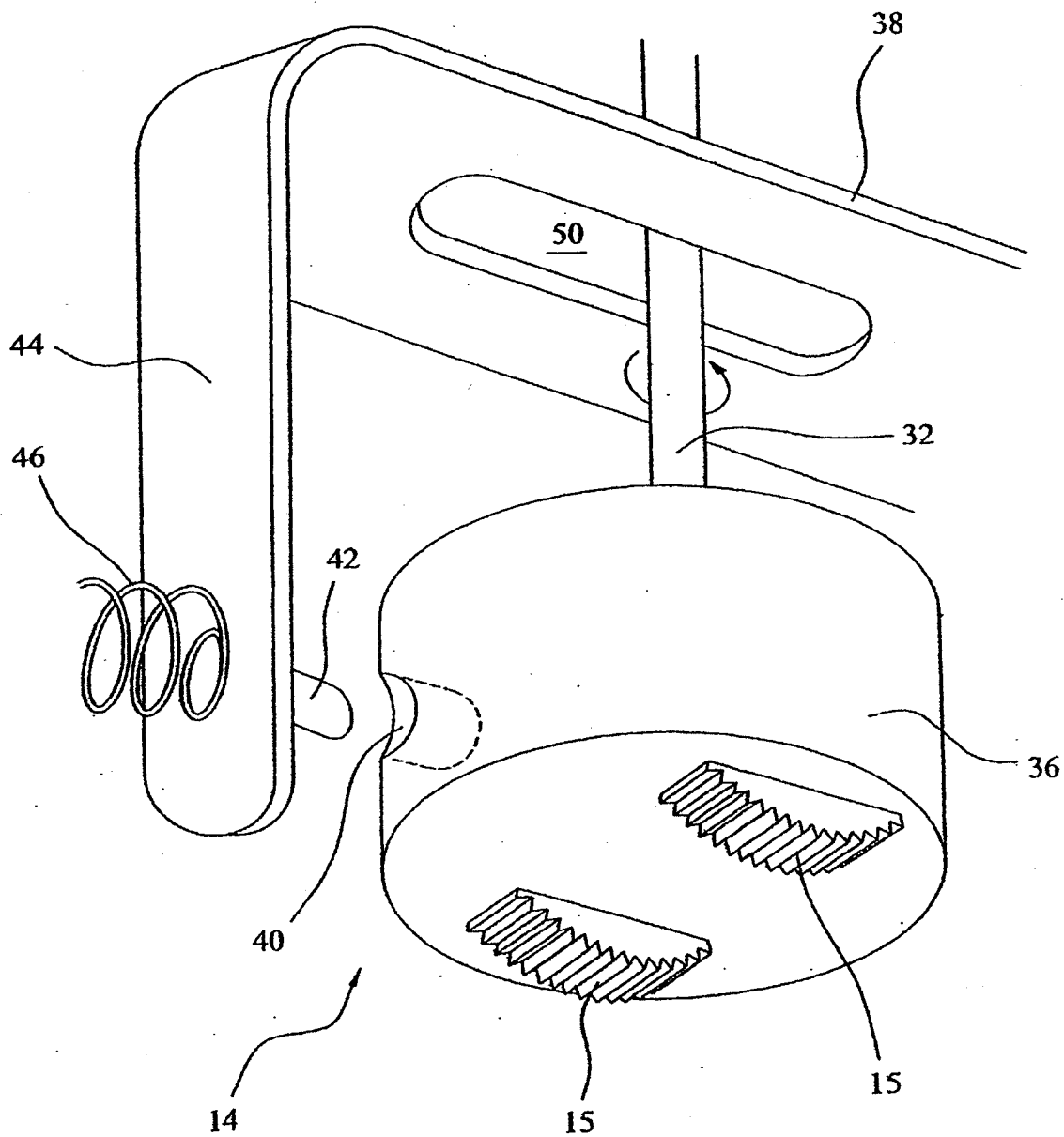


FIG. 3

Attorney Docket No.: 102792-603 (11302P1 US)
 U.S. Serial No.: To Be Assigned
 Filing Date: July 26, 2006
 Name of Applicant: Geoffrey Robert HAMMOND et al.
 Title of Invention: CLEANING DEVICE

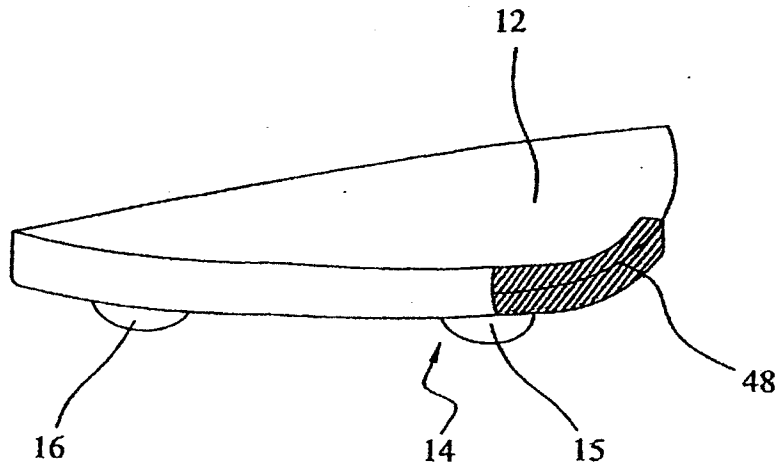


FIG. 4

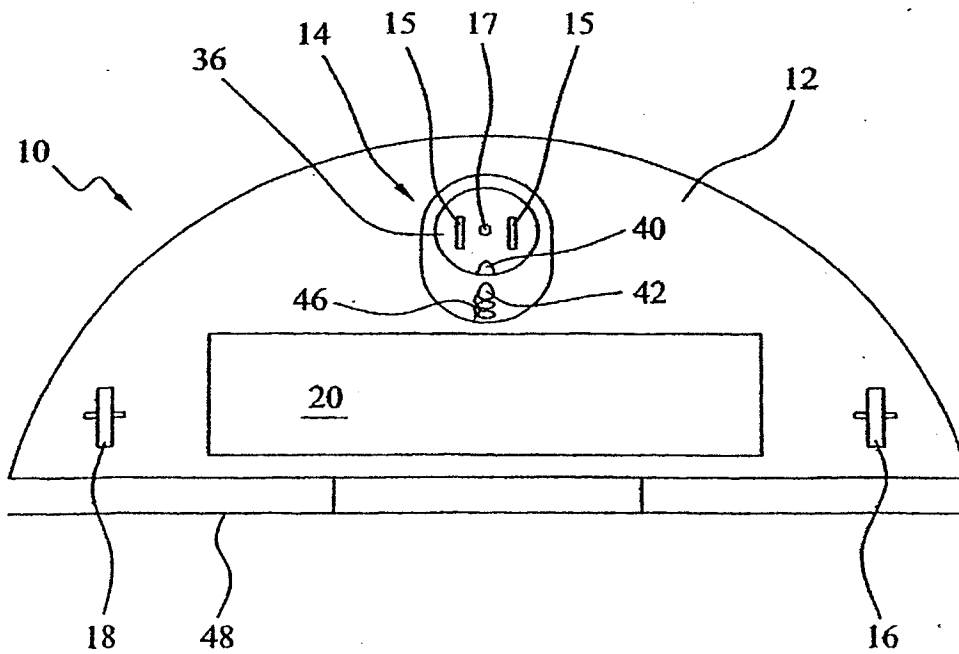


FIG. 5

COMBINED OATH, DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe that I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

CLEANING DEVICE

the specification of which has been filed on July 28, 2006 in the U.S. Patent and Trademark Office as a 371 of PCT/GB2005/000343.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations §1.56.

I hereby claim foreign priority benefits under title 35, U.S.C. §119 of any foreign application(s) for patent or inventor certificates listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application			Priority Claimed	
0403537.4	Great Britain	18/02/2004	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
(Number)	(Country)	(Day/Month/Year Filed)		
			<input type="checkbox"/> Yes	<input type="checkbox"/> No
(Number)	(Country)	(Day/Month/Year Filed)		

I hereby claim to benefit under 35 U.S.C. §119 (e) of any United States Provisional application(s) listed below:

US Provisional Application Serial No.:	Filing Date:

I hereby claim the benefit under Title 35, U.S.C. §120 of any United States application(s) listed below, and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, U.S.C. §112, I acknowledge the duty to disclose material information is defined in Title 37, Code of Federal Regulations §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

US Patent Application:	Filing Date:	Status:

I hereby declare that all statements made herein of my own knowledge or true and that all statements made on information and belief are believed to be true; and further that these statements for made with the knowledge that willful false statements and like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Power of Attorney: As a named inventor, I hereby appoint

<input checked="" type="checkbox"/>	Practitioners Associated with the Customer Number:	27389
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as my/our attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from the Assignee of this application as to any action to be taken in the United States Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned.

SEND ALL CORRESPONDENCE TO: Norris, McLaughlin & Marcus PA 875 Third Avenue, 18 th Floor New York, NY 10022	DIRECT TELEPHONE CALLS TO: Andrew N. Parfomak (212) 808-0700
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Full Name of First Inventor:	Geoffrey Robert HAMMOND
Inventor's Signature	
Date of Signature:	
Inventor's Citizenship:	Great Britain
Residence Address:	c/o Reckitt Benckiser Corporate Services Limited Dansom Lane Hull HU8 7DS UNITED KINGDOM
Post Office Address:	-same as residence address-

Full Name of Second Inventor:	Lawrence T. LEVINE
Inventor's Signature	
Date of Signature:	
Inventor's Citizenship:	United States of America
Residence Address:	c/o Creative Services 255 Woodside Circle Fairfield, Connecticut 06825 UNITED STATES OF AMERICA
Post Office Address:	-same as residence address-

Full Name of Third Inventor:	Lamson NGUYEN
Inventor's Signature	
Date of Signature:	
Inventor's Citizenship:	United States of America
Residence Address:	278 Maple Avenue Somerset, New Jersey 08873 UNITED STATES OF AMERICA
Post Office Address:	-same as residence address-

ASSIGNMENT

In consideration of One Dollar (\$1.00) in hand paid and other good and valuable considerations, the receipt of which is hereby acknowledged, the undersigned [hereinafter (collectively) named "Assignor"] hereby assigns and transfers to

RECKITT BENCKISER (UK) LIMITED
103-105 Bath Road
Slough
Berkshire
SL1 3UH
UNITED KINGDOM

, a British corporation (hereinafter named "Assignee"), its successors, legal representatives and assigns, the entire right, title and interest in and to Assignor's application for Letters Patent of the United States, Application Serial No. 10/597,550 filed on July 28, 2006, entitled

CLEANING DEVICE

and to Assignor's entire right, title and interest in any and all inventions, whether joint or sole, disclosed in said application for Letters Patent, and in any and all divisional or continuation or renewal applications that may be filed for United States Letters Patent for any and all of said inventions, and in and to any and all patents that may be granted on the foregoing applications and any reissue or extension thereof.

The Assignor hereby authorizes and requests the Commissioner of Patents to issue any and all of said Letters Patent to said Assignee.

For said consideration, the Assignor hereby agrees upon the request of said Assignee, its successors, legal representatives or assigns, to execute any and all United States divisional, continuation and renewal applications for said invention, and any and all necessary oaths, supplemental oaths or declarations or supplemental declarations or affidavits relating thereto, and any application for the reissue or extension of any United States Letters Patent that may be granted upon said application that said Assignee, its successors, legal representatives or assigns may deem necessary or expedient.

For the said consideration the Assignor further agrees upon the request of said Assignee, its successors, legal representatives or assigns, in the event of said application or any division thereof, or Letters Patent issued thereon or any reissue or application for the reissue thereof, becoming involved in interference, to cooperate to the best of the ability of the Assignor with said Assignee, its successors, legal representatives or assigns in the matters of preparing and executing the Preliminary Statement and giving and producing evidence in support thereof, the Assignor hereby agreeing to perform upon such request, any and all affirmative acts necessary to obtain said Letters Patent and vest all rights therein hereby conveyed in said Assignee, its successors, legal representatives or assigns as fully and entirely as the same would have been held and enjoyed by the assignor if this assignment and sale had not been made.

Assignor hereby binds himself, his heirs, legal representatives, administrators, and assigns properly to execute without further consideration, any and all applications, petitions, oaths, assignments or other papers and instruments which may be necessary in order to carry into full force and effect the sale, assignment and transfer hereby made, or intended or agreed to be made.

And for said considerations, the Assignor hereby assigns to said Assignee, its successors, legal representatives and assigns, the entire right, title and interest in said invention or improvement for any and all foreign countries and agrees upon the request of said Assignee, its successors, legal representatives or assigns to execute any and all documents that shall be required of the Assignor to be executed in connection with any and all applications for foreign Letters Patent therefor, including the prosecution thereof, and to execute any and all documents necessary to invest title in said foreign applications and patents in said Assignee, its successors, legal representatives or assigns.

Signature: _____
Geoffrey Robert HAMMOND

Date: _____

Signature: _____
Lawrence T. LEVINE

Date: _____

Signature: _____
Lamson NGUYEN

Date: _____

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Tracking number	796042203441	Reference	102792-603
Signed for by	Signature release on file	Destination	SOMERSET, NJ
Ship date	Aug 1, 2008	Delivered to	Residence
Delivery date	Aug 4, 2008 2:40 PM	Service type	Standard Envelope
		Weight	0.5 lbs.
Status	Delivered		
Signature image available	No		

Date/Time	Activity	Location	Details
Aug 4, 2008	2:40 PM Delivered	SOMERSET, NJ	Left at front door. Package delivered to recipient address - release authorized
	7:43 AM On FedEx vehicle for delivery	BRANCBURG, NJ	
Aug 2, 2008	8:31 AM At local FedEx facility	BRANCBURG, NJ	
	8:31 AM At local FedEx facility	BRANCBURG, NJ	Package not due for delivery
	8:11 AM Departed FedEx location	NEWARK, NJ	
	6:25 AM Arrived at FedEx location	NEWARK, NJ	
	5:03 AM Departed FedEx location	INDIANAPOLIS, IN	
Aug 1, 2008	11:45 PM Departed FedEx location	NEWARK, NJ	
	10:40 PM Arrived at FedEx location	NEWARK, NJ	
	10:31 PM Left FedEx origin facility	NEW YORK, NY	
	6:01 PM Picked up	NEW YORK, NY	
	9:18 AM Package data transmitted to FedEx		

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OFFICE OF PETITIONS

In re Application of	:	
Nguyen, et al.	:	
Application No. 29/222,628	:	DECISION GRANTING
Filing Date: February 2, 2005	:	STATUS UNDER § 1.47(a)
Attorney Docket No. 102792-399 <i>ANP</i>	:	

This is in response to the renewed petition under 37 CFR 1.47(a), filed October 3, 2005.

The petition under 37 CFR 1.47(a) is GRANTED.

The above-identified application was filed on February 2, 2005, without an executed oath or declaration. Accordingly, a Notice to File Missing Parts of Nonprovisional Application was mailed on March 15, 2005. This Notice set an extendable period for reply of two months for applicants to submit the statutory basic filing fee, an executed oath or declaration, and a surcharge for their late filing. On July 11, 2005, applicants filed a petition under 37 CFR 1.47(a), made timely by obtaining a two month extension of time. Accompanying the petition was a declaration executed by inventors Diane Neiman and Jeanne Marie Weller, but with the signature block for inventor Lamson Nguyen left blank.

However, the petition was dismissed in a decision mailed on August 16, 2005. Petitioner had not shown that non-signing inventor Nguyen was presented with a copy of the application papers.

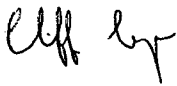
A grantable petition under 37 CFR 1.47(a) requires: (1) proof that the non-signing inventor(s) cannot be reached or refuses to sign the oath or declaration after having been presented with the application papers (specification, claims and drawings); (2) an acceptable oath or declaration in compliance with 37 CFR 1.63; (3) the petition fee; and (4) a statement of the last known address of the non-signing inventor(s).

With the instant petition, petitioner has established that Nguyen was presented with the application papers on September 19, 2005. However, as of the date of the petition, Nguyen has not returned an executed declaration. Accordingly, the above-identified application is hereby accorded Rule 1.47(a) status.

As provided in 37 CFR 1.47(c), this Office will forward notice of this application's filing to the non-signing inventor at the address given in the petition. Notice of the filing of this application will also be published in the Official Gazette.

The application file is being forwarded to Group Art Uni 2913 for docketing and examination in due course.

Telephone inquiries concerning this decision may be directed to the undersigned at (571)272-3207.

A handwritten signature in cursive script, appearing to read "Cliff Congo".

Cliff Congo
Petitions Attorney
Office of Petitions



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OFFICE OF PETITIONS

In re Application of :
Nguyen, et al. :
Application No.: 29/222,613 :
Filed: February 2, 2005 :
Attorney Docket No.: 102792-398 :
For: LAVATORY DEVICE :

DECISION REFUSING STATUS
UNDER 37 CFR 1.47(a)

This is a decision on the reconsideration petition under 37 CFR 1.47(a), filed October 5, 2005 (certificate of mailing date October 3, 2005).

The petition is **GRANTED**.

Petitioners have shown that the non-signing inventor, Lamson Nguyen, has constructively refused to join in the filing of the above-identified application after having been presented with the application papers. Specifically, the declaration/statement of facts of Attorney Andrew N. Parfomak establishes that the non-signing inventor was successfully mailed the application papers, including the specification, claims and drawings, but he failed to respond to the request that he sign the declaration. Mr. Nguyen has not responded to numerous phone messages and mailings. Petitioners have submitted a declaration in compliance with 37 CFR 1.63 and 1.64.

This application and papers have been reviewed and found in compliance with 37 CFR 1.47(a). This application is hereby accorded Rule 1.47(a) status.

As provided in Rule 1.47(c), this Office will forward notice of this application's filing to the non-signing inventor at the address given in the petition. Notice of the filing of this application will also be published in the Official Gazette.

After this decision is mailed, the above-identified application will be returned to the Office of Initial Patent Examination for further processing.

Telephone inquiries should be directed to the undersigned at (571) 272-3230.

E. Shirene Willis
Senior Petitions Attorney
Office of Petitions



29 AUG 2006

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In re Application of :
BELANSKY et al :
U.S. Application No.: 10/509,555 :
PCT No.: PCT/GB03/01449 :
Int. Filing Date: 03 April 2003 :
Priority Date: 03 April 2002 :
Attorney Docket No.: 102792-008/11006P1 :
For: CLEANING APPARATUS AND :
METHOD FOR USING THE SAME :

DECISION

This decision is in response to applicants' petition Under 37 CFR 1.47(a) filed on 28 April 2006.

BACKGROUND

On 29 September 2004, applicant submitted papers to enter the national stage of PCT/GB03/01449. These papers included an unsigned declaration.

On 30 March 2005, the DO/EO/US mailed a Notification of Acceptance of Application Under 35 U.S.C. 371 and 1.495 (Form PCT/DO/EO/903) and filing receipt indicating that the date of receipt of 35 U.S.C. 371(c)(1), (c)(2) and (c)(4) requirements and date of completion of all 35 U.S.C. 371 requirements is 29 September 2004.

On 18 April 2005, a request for a corrected filing receipt was mailed.

On 03 August 2005, a request for a Notice of Missing Parts was filed.

On 28 April 2006, applicants filed the subject petition which was accompanied by, *inter alia*, a declaration signed by twelve of the thirteen named inventors and documentary evidence of correspondence sent to the nonsigning inventor with postal receipts.

DISCUSSION

A review of the subject application shows that an oath or declaration in compliance with 37 CFR 1.497(a) and (b) was not submitted on 29 September 2004. The declaration filed with the national stage papers was not signed.

Accordingly, the Form PCT/DO/EO/903 and filing receipt mailed 30 March 2005 were sent in error, and hereby **VACATED**.

In the papers filed 28 April 2006, applicant claims that one of the thirteen named inventors, Lamson Nguyen, refuses to sign the declaration and has filed the subject petition under 37 CFR 1.47(a).

A petition under 37 CFR 1.47(a) requires: (1) the petition fee; (2) factual proof that the missing joint inventor cannot be located or refuses to cooperate; (3) a statement of the last known address of the nonsigning joint inventor; (4) and an oath or declaration executed by the signing joint inventors on their behalf and on behalf of the nonsigning joint inventors.

The \$200.00 petition fee has been paid.

Regarding item (2), the 37 CFR 1.47(a) applicant included a list of the actions taken to obtain the signature of the nonsigning inventor in the petition. A letter requesting signature of the declaration was mailed to the last known address of Mr. Nguyen on 31 March 2006 along with a copy of the above-captioned patent application. A Federal Express tracking report indicates that the documents were delivered and received by M. Mai on 03 April 2006. Applicant was requested to return the executed documents as soon as possible. Another letter and copy of the subject application was mailed to the last known address of Mr. Nguyen on 07 April 2006 again requesting that the documents be returned as soon as possible. These documents were delivered on 10 April 2006 and received by G. Nguyen.

Applicants claim that no response has yet been received from the nonsigning inventor and concludes that Mr. Nguyen "had ample opportunity to review these aforesaid documents and notwithstanding these opportunities, continues to refuse to join in the above-captioned application."

Applicants' burden in showing that an inventor refuses to cooperate is explained in section 409.03(d) of the MPEP which states, in part:

When it is concluded by the 37 CFR 1.47 applicant that a nonsigning inventor's conduct constitutes a refusal, all facts upon which that conclusion is based should be stated in the statement of facts in support of the petition or directly in the petition. If there is documentary evidence to support facts alleged in the petition or in any statement of facts, such evidence should be submitted.

A review of the evidence submitted shows that the conduct of Mr. Nguyen

constitutes a refusal to cooperate.

As such, item (2) of 37 CFR 1.47(a) is satisfied.

The last known address of Mr. Lamson Nguyen is listed as:

278 Maple Avenue
Somerset, NJ 08873

Regarding item (4), the 37 CFR 1.47(a) applicant submitted declaration signed by twelve of the thirteen joint inventors on behalf of the nonsigning joint inventor. The residence, citizenship and mailing information for all inventors are listed. This declaration complies with 37 CFR 1.497(a) and (b).

Item (4) of 37 CFR 1.47(a) is also satisfied.

All requirements of 37 CFR 1.47(a) are complete.

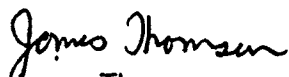
CONCLUSION

Applicants' petition under 37 CFR 1.47(a) is **GRANTED**.

Applicants have completed the requirements for acceptance under 35 U.S.C. 371(c). The application has an international filing date of 03 April 2003 under 35 U.S.C. 363, and a 35 U.S.C. 371 date of 28 April 2006.

As provided in 37 CFR 1.47(a), a notice of the filing of this application will be forwarded to the nonsigning inventor at his last known address of record and will be published in the Official Gazette.

This application is being forwarded to the National Stage Processing Division of the Office of PCT Operations for continued processing.



James Thomson
Attorney Advisor
Office of PCT Legal Administration

Tel.: (571) 272-3302



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In re Application of :
NGUYEN et al. :
Application No.: 10/561,749 : DECISION
PCT No.: PCT/GB2004/002267 :
Int. Filing Date: 28 May 2004 :
Priority Date: 26 June 2003 :
Attorney Docket No.: 102792-133 (11256P3 US) ANP :
For: IMPROVED DISPENSING DEVICE :

This is a decision on applicants' renewed petition under 37 CFR 1.47(a) filed 29 September 2006 in the United States Patent and Trademark Office (USPTO).

BACKGROUND

On 28 May 2004, applicants filed international application PCT/GB2004/002267, which designated the United States and claimed a priority date of 26 June 2003. A copy of the international application was communicated from the International Bureau to the USPTO on 06 January 2005. The thirty-month period for paying the basic national fee in the United States expired at midnight on 27 December 2005 (26 December 2005 being a Federal holiday).

On 21 December 2005, applicants filed a submission for entry into the national stage in the United States which was accompanied by, *inter alia*, the U.S. Basic National Fee.

On 22 February 2006, applicants filed the instant petition under 37 CFR 1.47(a) which was accompanied by, *inter alia*, a declaration of inventors, a declaration of facts by Andrew N. Parfomak, a copy of a letter from Mr. Parfomak to non-signing inventor Lamson Nguyen, and a copy of a Federal Express receipt.

On 13 September 2006, a decision was mailed dismissing applicants' petition under 37 CFR 1.47(a). Specifically, it was noted that factual proof that the missing joint inventor refuses to execute the application or cannot be reached after diligent effort had not been provided.

On 29 September 2006, applicants filed the instant renewed petition which includes, *inter alia*, a copy of a letter from Mr. Parfomak to non-signing inventor Lamson Nguyen dated 31

March 2006; a FedEx tracking statement for the letter dated 31 March 2006; a copy of a letter from Mr. Parfomak to non-signing inventor Lamson Nguyen dated 07 April 2006; and a copy of delivery information from FedEx for the letter dated 07 April 2006.

DISCUSSION

A petition under 37 CFR 1.47(a) must be accompanied by: (1) the fee under 37 CFR 1.17(h); (2) factual proof that the missing joint inventor refuses to execute the application or cannot be reached after diligent effort; (3) a statement of the last known address of the missing inventor; and (4) an oath or declaration by each 37 CFR 1.47(a) applicant on his or her own behalf and on behalf of the non-signing joint inventor.

As noted in the decision mailed 13 September 2006, items (1), (3), and (4) have been satisfied.

Item (2) has now been satisfied. The evidence of record indicates that Mr. Lamson Nguen has been presented with a copy of the application papers several times and his conduct constitutes a refusal to sign.

CONCLUSION

For the above reasons, applicants' renewed petition under 37 CFR 1.47(a) is **GRANTED**.

As provided in 37 CFR 1.47(a), a notice of the filing of this application will be forwarded to non-signing inventor at his last known address of record.

A notice of the filing of the application under 37 CFR 1.47(a) will be published in the Official Gazette.

This application is being forwarded to the National Stage Processing Branch of the Office of PCT Operations to continue national stage processing of the application, including the accordation of a 35 U.S.C. §§371(c)(1), (c)(2), and (c)(4) date of **22 February 2006**.



Daniel Stemmer

Legal Examiner

PCT Legal Affairs

Office of Patent Cooperation Treaty

Legal Administration

Telephone: (571) 272-3301

Facsimile: (571) 273-0459